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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/711,420	09/17/2004	Robert W. Zehner	H-386	5419

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EXAMINER	
HOLTON, STEVEN E	

ART UNIT	PAPER NUMBER
2629	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/711,420	ZEHNER ET AL.	
	Examiner	Art Unit	
	Steven E. Holton	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 October 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-10,12-17,34,36-42,44-50 and 52* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *1,3-10,12-17,34 and 36-40* is/are allowed.

6)☒ Claim(s) *41,42,44-50 and 52* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action is made in response to applicant's amendment filed on 10/7/2008. Claims 1, 3-10, 12-17, 34, 36-42, 44-50, and 52 are currently pending in the application. An action follows below:

Response to Arguments

2. The amendments to claims 1, 34, and 36 to incorporate subject matter that was indicated allowable has been noted. As such claims 1, 34, 36 and respective dependent claims are allowed.

A newly found double patenting issue has been discovered by the Examiner during a review of commonly owned patents and applications.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claims 41, 42, 44-50, and 52 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 59, 68, and 69 of U.S. Patent No. 7119772 in view of Amundson et al. (USPgPub: 2005/0024353).

Regarding claim 41, the combination of claims 59, 68, and 69 of the '772 patent disclose:

Claim 41 of the current applications	Claims of the '772 patent
A method of driving an electro-optic display having a plurality of pixels each of which is capable of displaying at least three gray levels, the method comprising:	(Claim 59) A method of driving a bistable electro-optic display having a plurality of pixels, each of which is capable of displaying at least three gray levels, the method comprising
Displaying a first image on the display; and rewriting the display to display a second image thereon by applying to each pixel a waveform effective to cause the pixel to change from an initial gray level to a final gray level	(Claim 59) ...applying to each pixel of the display an output signal effective to change the pixel from an initial state to a final state..
Wherein, for all pixels undergoing a non-zero transitions, the waveforms applied to the pixels having at least one voltage	

transition occurring at substantially the same time in each waveform	
The waveforms for all pixels undergoing non-zero transitions being of the form -x/ΔIP/x, where ΔIP denotes a difference in impulse potential between the final and initial states of the waveform, while –x and x represent a DC balanced pair of pulses	(Claim 69) for each transition in which the initial and final states of the pixel are not the same, the output signal has the form -x/ΔIP/x, where ΔIP is the difference in impulse potential between the initial and final states of the pixel and –x and x are a pair of pulses of equal length but opposite sign.

The Examiner notes that pulses of equal length and opposite sign are DC balanced pulses.

The claims of the '772 patent disclose all of the limitations except at least one voltage transition occurring at substantially at the same time in each waveform.

Amundson et al. discloses a method of driving a bistable electro-optic display device using a driving waveform of the form -x/ΔIP/x (paragraph 279; Fig. 12 shows one form of this driving waveform). Further Amundson et al. discloses that in a normal active matrix addressed style display device the initial and final pulses (the x and -x pulses) are end-justified for all pixels in a particular line (paragraphs 300-306; paragraph 306 in particular).

At the time of invention it would have been obvious to one of ordinary skill in the art to combine the teachings of the '772 patent and Amundson et al. to produce a

driving method for an electro-optic display device having a particular driving waveform wherein at least one voltage transition occurring at substantially the same time for all pixels undergoing a transition from an initial state to a final state. The rationale would have been to use known driving techniques for implementing a driving scheme for an electro-optic display device to reduce visual errors in a DC matched driving scheme. Thus, it would have been obvious to combine the teachings of the '772 patent and Amundson et al. to produce the method disclosed in claim 41.

Regarding claims 42, 44, and 46, Amundson et al discloses that the x and -x pulses are end-justified (paragraph 306). Thus, the first pulse and the x and -x pulses occur at substantially the same time in each waveform.

Regarding claim 45, Amundson does not expressly state that the beginnings of the ΔIP pulse occurs at substantially the same time, but does express that delays between the start of the ΔIP pulse and the –x pulse can be added as a matter of design choice (paragraph 307). Therefore, the design choice of inserting no delay between the end of the -x pulse and the start of the ΔIP pulse would result in all of the ΔIP pulses starting at the same time because all of the identical -x pulses would end at the same time.

Regarding claim 47, claim 59 of the '772 patent names the display device as being bistable.

Regarding claims 48-50, Amundson et al. discloses all of these types of displays as being useable with the particular driving method (paragraph 63).

Regarding claim 52, Amundson et al. shows the -x/ΔIP/x driving scheme as applying voltages of –V, 0, and +V where V is an arbitrary voltage (Fig. 12).

Allowable Subject Matter

4. Claims 1, 3-10, 12-17, 34, and 36-40 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

The present invention is directed to a method of driving an electrophoretic display device using a specific driving waveform. Dependent claim 2 identifies the uniquely distinct features driving pixels undergoing a zero transition and a non-zero transition simultaneously for the entire display and having all pixels driven by a waveform having a last non-zero voltage period terminating at substantially the same time. The closest prior art, Zhou and Ando et al. (USPN: 7106277) disclose methods of driving pixels with waveforms with final non-voltage periods terminating at the same time, but not all pixels of the display undergoing both non-zero and zero transitions, either singularly or in combination, fail to anticipate or render the above underlined limitations obvious.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven E. Holton whose telephone number is (571)272-7903. The examiner can normally be reached on M-F 8:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on (571) 272-7681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Bipin Shalwala/
Supervisory Patent Examiner, Art Unit 2629

Steven E. Holton
Art Unit 2629
December 21, 2008